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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/562,358 | 12/27/2005 | Ihor Kirenko | FR 030074 | 4143 |

24737 7590 09/12/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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| EXAMINER | |
|---|---|
| DO, CHAT C | |
| ART UNIT | PAPER NUMBER |
| 2193 | |
| MAIL DATE | DELIVERY MODE |
| 09/12/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/562,358 | KIRENKO, IHOR | |
| | Examiner | Art Unit | |
| | CHAT C. DO | 2193 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 December 2005 and 06 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/06/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract should be on a separate sheet. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

The header “Domain of the invention” should be “Background of the invention” in accordance with the Office format.

Appropriate correction is required.

### *Claim Objections*

4. Claims 12-13 are objected to because of the following informalities:

Re claims 12-13, the applicant is advised to amend these claims into independent form including all the limitations of preceding claims.

5. Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-13 cite a method, apparatus, program, and medium for encoding/decoding data in accordance with a mathematical algorithm. However, claims 1-13 merely disclose series mental steps/components for encoding/decoding data without disclosing a practical/physical application. In addition, claims 1-7 fail to direct or tight into a device or apparatus; claims 8-11 are considered as software per se since these claims direct to software modules for performing the intended function; claim 12 is considered as software per se since the program is not stored in tangible medium; and claim 13 is directed to non-statutory subject mater as signal carrier. Therefore, claims 1-13 are directed to non-statutory subject matter.

### *Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bernd Neumann ("Image Data Compression").

Re claim 1, Bernd Neumann discloses in slides a method of encoding an input signal into an output bit stream (BS), said input signal comprising blocks of values (e.g. slides 1 and 12), said method comprising the steps of: applying (1) a transformation to a block of values (BV) in order to get a transformed block (TB) (e.g. FDCT in slide 12 with 8x8 block), said transformed block comprising a number (I) of coefficients, said number being greater than one (e.g. slides 12-13), scanning (2) the coefficients (C.sub.1-C.sub.I) of a transformed block (TB) according to a coefficient scanning order (e.g. ordering DCT coefficients in zigzag order in slide 12), splitting (3) a scanned coefficient (C.sub.i) into K groups of bits (C.sub.i,1-C.sub.i,K) numbered from 1 to K (e.g. by performing running length as seen in slide 12), such that at least a group of bits comprise at least 2 bits and such that said scanned coefficient (C.sub.i) is the concatenation of the K groups of bits (e.g. Huffman coding with plurality of sorted messages in slides 2 and 4), entropy coding (4) a k.sup.th group of bits (C.sub.i,k) using entropy codes into a k.sup.th entropy coded group of bits (EC.sub.i,k) (e.g. Huffman coding is the entropy coding as seen in Figures 3-4), forming (5) a block bit stream (BBS) from the K entropy coded groups of bits of the scanned coefficients of the transformed block, said output bit stream (BS) comprising said block bit stream (BBS) (e.g. output of slide 6 as compressed data image).

Re claim 2, Bernd Neumann further discloses in slides entropy codes are Variable Length Codes (e.g. slide 4).

Re claim 3, Bernd Neumann further discloses in slides the K entropy coded groups of bits (EC.sub.i,1-EC.sub.i,k) of the scanned coefficient C.sub.i are grouped together to form an entropy coded coefficient (EC.sub.i) and said block bit stream (BBS) comprises a concatenation of said entropy coded coefficients (e.g. processing each sorted message as seen in slides 2 and 4).

Re claim 4, Bernd Neumann further discloses in slides block bit stream (BBS) comprises K entropy coded block layers (EBL.sub.1-EBL.sub.K), a k.sup.th entropy coded block layer (EBL.sub.k) comprising the entropy codes of the k.sup.th groups of bits of the I scanned coefficients of the transformed block (TB) (e.g. slides 2, 13 and 18).

Re claim 5, Bernd Neumann further discloses in slides output bit stream (BS) comprises K layers (L.sub.1-L.sub.K), a layer (L.sub.k) comprising a concatenation of the k.sup.th entropy coded block layers (EBL.sub.k) corresponding to successively scanned blocks of values of the input signal (e.g. slides 13 and 18).

Re claim 6, it is a method claim having similar limitations cited in claim 1 in reversed order for decoding. Thus, claim 6 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 7, it is a method claim having similar limitations cited in claim 1 in reversed order for decoding. Thus, claim 7 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 8, it is an encoder claim having similar limitations cited in claim 1. Thus, claim 8 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 9, it is a decoder claim having similar limitations cited in claim 6. Thus, claim 9 is also rejected under the same rationale as cited in the rejection of rejected claim 6.

Re claim 10, Bernd Neumann further discloses in slides K received entropy coded groups of bits (EC.sub.i,1-EC.sub.i,K) are decoded by K parallel decoding means (e.g. slide 4).

Re claim 11, Bernd Neumann discloses in slides a video trans-coder for trans-coding a first bit stream (BS1) into a second bit stream (BS.sub.2), said first bit stream (BS.sub.1) comprising first block bit streams, a first block bit stream (BBS.sub.1) (e.g. as encoding the decoding data in slide 1 wherein the digitized image is the decoded digitized image from the first reconstruction in slide 1) comprising: entropy coded first transformation coefficients (T.sub.1C.sub.i), said video trans-coder comprising means for: decoding (40) said entropy coded first transformation coefficients into entropy decoded first transformation coefficients (DC.sub.i) (e.g. decoding process of VLC in slide 1), inversely scanning (41) said decoded coefficients (DC.sub.1-DC.sub.I) to form a decoded transformed block (DTB') (e.g. reversed processed of encoding in slide 12 with order the DCT coefficients in zigzag order), applying (42) an inverse first transformation to the entropy decoded first transformation coefficients in order to get a decoded block (DB") (e.g. reversed processed of encoding in slide 12 with IDFCT), applying (43) a second transformation to said decoded block (DTB) in order to get second transformation coefficients (C.sub.i) (e.g. FDCT in slide 12), a second transformation coefficient comprising N bits (e.g. slide 16), splitting (44) said second transformation coefficient

(C.sub.i) into K groups of bits numbered from 1 to K (e.g. slides 2 and 4), such that at least one group of bits comprises at least 2 bits and such that said second transformation coefficient is obtained by concatenating the K groups of bits (e.g. slide 4 with the codeword of at least 2 binary bits), entropy coding (45) said k.sup.th groups of bits using entropy codes (e.g. slides 3-4), forming said second block bit stream (BBS.sub.2) from the entropy codes, said second bit stream (BS.sub.2) comprising said second block bit stream (BBS.sub.2) (e.g. output of slide 12 as compressed image data).

Re claim 12, it is a computer program claim having similar limitations cited in claim 1. Thus, claim 12 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 13, it is signal claim having similar limitations cited in claim 12. Thus, claim 13 is also rejected under the same rationale as cited in the rejection of rejected claim 12.

## *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. U.S. Patent No. 6,594,386

b. U.S. Patent No. 6,587,590

c. U.S. Patent No. 5,590,064

d. U.S. Patent No. 6,968,091

e. U.S. Patent No. 6,008,848

f. U.S. Patent No. 4,882,754

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAT C. DO whose telephone number is (571)272-3721. The examiner can normally be reached on Tue-Fri 9:00AM to 7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chat C. Do/
Primary Examiner, Art Unit 2193

September 10, 2008